

ART. XVIII. *De l'Influence des Saisons sur la Mortalité à différens ages.* Par M. le Docteur H. C. LOMBARD, Lu à la Réunion de la Société Helvétique des Sciences Naturelle à Genève, en Août, 1832.

De l'Influence des Professions sur la durée de la vie. Recherches Statistiques. Par le Dr. H. C. LOMBARD, Médecin de l'Hôpital Civil et Militaire de Genève. Geneva, 1835.

On the Influence of the Seasons upon the Mortality at different ages. By H. C. LOMBARD, M. D. Memoir read at a meeting of the Helvetic Society of the Natural Sciences, at Geneva, in August, 1832.

On the Influence of the Professions upon the duration of life. Statistical Researches, by Dr. H. C. LOMBARD, Physician to the Civil and Military Hospital at Geneva. 1835.

The modern science of statistics seems destined to develop many important facts connected with almost every branch of human knowledge, and not a few which contribute to the solution of physiological questions formerly enveloped in obscurity. Among these last is the subject involved in the first mentioned memoir of Dr. Lombard, the immediate object of which is to determine the variations in the force of the vital powers at different ages, so far as it may be estimated from an exact reference to the mortality occurring at different seasons. The criterion referred to supposes, that when the number of deaths at a certain period of life is found to vary but little in different seasons, the inference may be fairly deduced that the vital powers exist in great energy, and oppose a strong resistance to the causes tending to promote mortality; whilst, on the contrary, a considerable variation taking place in the mortality at different seasons, affords reasons for concluding that the intensity of the vital powers is diminished.

The influence of temperature upon mortality has been ably investigated by Villermé and Milne Edwards, who confined their inquiries to the earliest periods of infancy, and by Quetelet, whose researches were extended to every period of life. The number of our Journal for November, 1831, shows the influence of the seasons upon infantile and adult life in Philadelphia, and presents results remarkably different from those of the European cities that have hitherto been subjected to similar statistical inquiries, especially those of Geneva, as estimated by Dr. Lombard. An examination of the calculations made for various localities, illustrates in a striking manner the destructive agencies predominating in each, as well as the periods of life when these manifest most activity.

The data upon which Dr. Lombard founds his calculations are drawn from the civil register of the city of Geneva, and comprises 17,623 deaths, distributed through 24 years. This number, it is true, must be regarded as too inconsiderable to place the results on the most incontestable footing, but still the accuracy and minuteness which mark the records go far to compensate for the disadvantage in numbers.

To be enabled to appreciate the influence of temperature upon human life at different ages with more precision, Dr. Lombard makes the following division into eight epochs, each of which he supposes to represent a different state of the vital forces.

1. From conception to birth, (still-born.)
2. From birth to one month, (newly born.)
3. From one month to 2 years, (first infancy.)
4. From 2 to 15 years, (infancy and adolescence.)
5. From 15 to 60 years, (vigour of life.)
6. From the 60th to the 70th year, (commencing old age.)
7. From the 70th to the 80th year, (confirmed old age.)
8. From the 80th to the 100th year, (caducity.)

Before noticing the mortality of the several periods, it may be proper to state

that the general mortality of the different months in Geneva, without any distinction of age, shows a very gradual increase and diminution—the minimum corresponding to the month of July, or the warmest month, and the maximum to February, or the period immediately following the greatest cold. Between these two extremes the increase and diminution of deaths is altogether regular, except that the first, which occupies seven months, takes place slowly, whilst the increase is marked by greater rapidity.

These results are in exact accordance with those observed by Quetelet in Brussels and other parts of the Netherlands, but they are precisely the reverse of the course of mortality as influenced by the seasons in Philadelphia and the neighbouring cities on the Atlantic coast, in which by far the greatest mortality takes place in the warmest period of the year. (See this Journal for November, 1831, p. 32.)

When we refer to the results obtained by Dr. Lombard's estimates for each of the periods he has established, we find that the number of still-born attains its maximum in winter, and diminishes regularly till autumn.

The influence of the changing seasons upon the mortality of the newly born, comprising infants from birth to one month, is shown by the fact that during the cold months the deaths are more than double what they are in the more temperate periods of the year.

The influence of temperature does not appear so well marked in the next period, which includes the mortality between the end of the first month and second year, and exhibits the greatest number of deaths in the autumn, whilst the minimum corresponds with spring.

Both of these results are strongly contrasted with those derived from similar calculations applied to our own locality. It must, however, be remarked, that the difference which exists in the division of the periods in the two calculations does not admit of a close comparison.

Between the 2nd and 15th years, the variations observed by Dr. Lombard are inconsiderable, and the vital powers seem to be sufficiently energetic to counterbalance, in a great degree, the influence of the seasons. The little variation observed in the mortality of the monthly periods, shows an increase in the autumn and spring.

In the period which Dr. Lombard designates the vigour of life, namely, between the 15th and 60th years, the maximum mortality corresponds with January, the coldest month, whilst the minimum is exhibited by July, or the warmest month.

After the 60th year, the influence of the seasons becomes more and more strongly marked. From the 60th to the 70th year the maximum and minimum monthly mortality correspond with March and July; the first being the most variable, and the last the warmest month in the year. When the periods are so arranged as to include the seasons, the greatest mortality is found during the winter and the least in summer. The difference between the two extremes is twice as great as in the preceding period.

Between the 70th and 80th years, the maximum monthly mortality corresponds with February, and the minimum with July; the winter being the season when the greatest number of deaths takes place, and summer showing the fewest victims.

The influence of the seasons upon aged persons in Geneva, is strikingly shown by the fact that a monthly comparison of the deaths exhibits two deaths of very old persons in winter for one in summer. The difference between the greatest and least mortality of the very aged, is four times greater than that observed in the period of life between fifteen and sixty years.

The observations of Dr. Lombard are accompanied by tabular statements, presenting the data and estimates formed upon them; from all which he thinks himself justified in concluding, that in Geneva the force of resistance opposed

to the deleterious influences of the seasons, is greatest in the middle of life, less intense between the age of one month and two years, and also from the sixtieth to the seventieth year; very feeble in the first month of life, and at its minimum after the seventieth year.

Among the practical conclusions which Dr. Lombard deduces from his calculations, are the following: The error of those who maintain that new-born infants can be exposed to cold with impunity; which leads him to disapprove of the common practice of exposing children for baptism, or on any other occasion, during the rigours of winter. Such exposure, he thinks, ought not to be made under six weeks, at least.

Another conclusion, of not less importance, is the necessity of preserving the aged from the extreme intemperatures of the seasons, since these suffer from the deleterious influence of cold and sudden changes, even more than infants.

"With old persons," Dr. L. remarks, "the spring and winter double the number of deaths, and it is to be presumed that a great number of them would have escaped danger had they known the source. Let not old persons, therefore, neglect warm clothing, on the first approach of the cold season. Let them sleep in a chamber kept at a proper temperature, and take care not to expose themselves to extremes of weather. Finally, let them be cautious in leaving off too soon their winter clothing, since we have seen that the spring presents a great many deaths of the aged."

We now proceed to the second memoir of Dr. Lombard, in which he examines the influence of professions upon the duration of life, an important subject connected with hygiene, which has been often referred to but never before investigated with the aid of statistical documents. The data upon which he founds his estimates, were furnished by the civil records of Geneva, and include the deaths of 8,488 persons of sixteen years and upwards, whose professions were designated. He exhibits a table in which these 8,488 individuals are distributed so as to show their several occupations, the mean duration of their lives, the number of deaths from accidents or violence, and the mean duration of life after deducting the deaths from accidents. The average of the whole number included in the estimate, is 55 years to each, and this constitutes the standard or mean term with which he compares the influences of professions favourable, and those which are unfavourable, to the prolongation of life.

The last mentioned influences being by far the most numerous, are also the most important to designate, since it is more easy to avoid the offending causes by which the operative classes are surrounded, than to afford these the subsequent care necessary to their welfare.

Dr. Lombard makes a general division of the influences favouring the duration of life, into those which are associated with ease, and such as are connected with activity.

Some of the professions connected with the first division, show an average duration of life far above the mean of 55 years. As for example, magistrates, 69.1; annuitants, 65.8; protestant ministers, 63.8; merchants, 62; goldsmiths, 61.9; weavers, 60.5.

Such results would seem to sustain the conclusion of Finlaison, that the duration of life is very much the same in all those classes of society which have recourse to life insurances, it being of but little consequence whether the individual who insures be of a delicate or robust constitution, provided his circumstances enable him to procure a certain sum each year, and place it with an insurance company. But a view of M. Lombard's table, affords a very long list of exceptions to the general rule of Finlaison, many lucrative professions standing below the mean.

Dr. Lombard observes, that there are some professions which usually enjoy a certain degree of ease; others, on the contrary, where, in consequence of the moderate salaries or earnings, of the members, they are always left in limited

circumstances. There are, however, a large number of professions which ordinarily place those who exercise them in an intermediate state between ease and misery. This view of the subject induces him to classify the different states into three divisions; the first comprehending those in easy circumstances; the second, mechanics and tradesmen; and the third, comprising day labourers. We are pleased to find the medical fraternity occupying a pretty exalted place on Dr. Lombard's list of the liberal professions, the mean of life of our Genevese brethren being put down at 66.4. It further appears that one-third of the physicians and surgeons of Geneva, attain the age of 70, or beyond; one-eleventh die after the age of 80; and four-fifths live beyond the age of 50. This privilege of life, we are sorry to believe, is almost peculiar to the comparatively small locality embraced in Dr. Lombard's calculations. In Prussia, for example, the case is very different, as appears from a memoir published by M. Caspar, of Berlin, wherein he states that out of 624 deaths of physicians and surgeons, only a fourth attained the age of 70; scarcely one in sixteen, the age of 80; and that more than one-half died before attaining their fiftieth year.

M. Caspar furnishes the following list of professions where the members attained, or went beyond, their seventieth year. The number shows the proportion in the hundred deaths of each profession. Theologians, 42; agriculturalists, 40; lawyers, 29; physicians, 24. In Geneva, the theologians are in the proportion of 46; the agriculturalists, 27; the lawyers, 42; and physicians, 33, in one hundred deaths of each profession.

A comparison of the various tables given by Dr. Lombard, shows in the three classes last referred to, a difference between the poor and those living in easy circumstances, of seven and a half years, or about one-eighth of the whole length of life. The following table shows in a condensed form, the uniformity of this result, and the degree of influence exhibited in each of the three classes.

<i>1st. Class.—Men in easy circumstances,</i>				<i>Average of life above 55 years.</i>
			-	62.2
<i>Ditto, - - -</i>				<i>Under 55 years.</i>
			-	52.6
<i>2nd. Class.—Tradesmen, - - -</i>				<i>Above 55 years.</i>
			-	60.7
<i>Ditto, . - -</i>				<i>Under 55 years.</i>
			-	50.5
<i>3d. Class.—Labourers and workmen, -</i>				<i>Above 55 years.</i>
			-	57.8
<i>Ditto, - - -</i>				<i>Below 55 years.</i>
			-	49.6

From this view it appears that the duration of life is abridged in proportion as we pass from a class in easy circumstances to one less so. The greatest difference is perceptible between those in easy circumstances and tradesmen, and least so between the tradesmen and labourers.

"We may, therefore," says our author, "consider ease as exerting a very considerable influence upon the duration of life. It is now several years since Dr. Villermé arrived at a similar result, by pursuing a very different course of enquiry, with an entirely different population, in the course of which he showed that the mortality of the various quarters of Paris was rendered greater in proportion to the prevalence of ease, and life prolonged as the extent of misery was diminished."

The second class designated by Dr. Lombard, shows the influence of the active employments upon the duration of life. Those whose occupations are altogether sedentary live a shorter time than those whose labours are attended with exercise in the open air.

With regard to the influences unfavourable to the duration of life, Dr. Lombard gives the first place to the absence of ease and limited pecuniary resources;

circumstances which abridge life, according to his computation, one-eighth of the mean term.

The second influence unfavourable to life, is the existence of mineral or vegetable vapours or powders in the atmosphere surrounding the workmen, the agency of which is so much the more hurtful as the vapours are irritating. These reduce the average duration of life 4.9 years. With certain workmen, the effects are still more melancholy, causing many to fall in the flower of their age. The mean of life is longer with those workmen who are surrounded with the dust from animal matters, than with such as respire an atmosphere charged with dust derived from vegetable and mineral substances. This result is, however, according to Dr. Lombard's observations, contrary to what has been remarked in regard to phthisis, which is much more frequent with workmen exposed to the inhalation of dust produced from animal and mineral substances. He also informs us that an impure atmosphere tends much more powerfully to abridge life, when the matters held in suspension are in a state of vapour, so as to be absorbed by the mucous lining of the lungs, than where they are in the state of powder, however fine. The mean duration of life, is 51 for those subjected to vapours, and 53.5 for such as are exposed to powders.

The researches of Dr. Knight, exhibit the effects of these deleterious agents in a strong point of view.* This writer informs us that the workmen of Sheffield, employed in the polishing of steel, rarely attain to an advanced age. Out of 2,500 of these, scarcely 35 reach the age of 50; and only 70 live to 45. The greatest number die before their thirty-sixth year.

The degrees in which the favourable and unfavourable influences are exerted upon the population of Geneva, are thus summed up.

1st.—Favourable Influences.			
Easy circumstances, add to the mean duration of life,			7.5 years.
An active life,	do.	do.	1.4 do.
2nd.—Unfavourable Influences.			
Absence of ease, deduct from the mean duration of life,			7.5 do.
Mineral and vegetable vapours,	do.	do.	4.9 do.
Dust of various kinds,	do.	do.	2.5 do.
Accidents and violence,	do.	do.	2.3 do.
Sedentary life,	do.	do.	1.4 do.

The causes operating in the production of this order of longevity, are thus explained by the author. The magistrates, annuitants, ecclesiastics, retired officers, merchants, &c., occupy the first rank, as the result of the easy circumstances which they enjoy. The same cause operates in favour of the gardener over the farmer, and the merchant over the shopkeeper.

The gardeners, founders, and wood-choppers, are indebted to their active vocations for greater longevity than is enjoyed by writing masters, boxmakers, shoemakers, and tailors, which last are operated upon unfavourably by their sedentary habits.

Painters, varnishers, locksmiths, enamellers, toymakers, and cabinetmakers, occupy the lowest place in the scale of longevity from their constant exposure to deleterious vapours. Finally, life is abridged in a marked degree, among boatmen and postilions, by the accidents to which their employments expose them.

It must be observed, that several of the agencies alluded to counteract each other. It is thus that the sedentary life of some operatives is counterbalanced by their state of ease, whilst the active habits of the wood-cutters tend to diminish the effects by which their poverty would otherwise be followed. A

* See his paper on Grindler's Phthisis, North of England Medical and Surgical Journal, for August and November, 1830; also this Journal for November, 1831, p. 248.

certain number of professions would, therefore, occupy very different positions in the scale of comparative mortality, if they were only subjected to the operation of a single influence.

G. E.

ART. XIX. *Practical Observations on the Venereal Disease, and on the Use of Mercury.* By ABRAHAM COLLES, M. D., one of the Surgeons of Dr. Stevens's Hospital, and lately Professor of Surgery in the Royal College of Surgeons, in Ireland. London, 1837, 8vo. pp. 351.

The name of Colles, so eminent from its surgical associations, is, we fear, not destined to be raised higher by the work he has just given us. We have not as yet had an opportunity of minutely examining it, nor do we feel any anxiety to do so, after the revelations which a rapid glance has afforded. We have seldom, if ever, met with a book from which some useful instruction was not to be gained, although its extraction has often been attended with the sacrifice of time and pains not adequately rewarded. Such, we fear, would be the result of a close sifting applied to the work of Mr. Colles, the obsolete and heterodox opinions spread through which are by no means atoned for by the valuable facts and interesting cases here and there to be met with. The profession has had a long struggle to disengage itself from some of the old dogmas, and have happily succeeded in a great degree. Dr. Colles, however, would bring it almost back again to the lessons of Hunter. Witness the following opinions relative to the administration of mercury.

"When mercury is exhibited for the use of any other disease, as well as syphilis, we shall find that its sanitary impression on the disease is contemporaneous with its action on the salivary system, and that when the latter effect has not been produced, neither will the former have occurred. If, then, it be so very generally found, that whenever mercury exercises a salutary influence over disease, it at the same time always affects the salivary organs; and if, again, whenever it fail to produce this latter effect, it be also found altogether inoperative in the cure of disease, it is surely a fair and legitimate conclusion to affirm that pyalism marks the natural and salutary operation of this mineral."

The efficacy of mercury was formerly estimated by the amount of salivation which it excited. Thus, certain venereal symptoms were thought to require a salivation of one pint a day; others two pints, and so on to four or six pints a day in the more obstinate cases. But Mr. Colles desires it to be understood, that he does not wish to estimate the efficacy of mercury by this old measure:

"The degree of pyalism that I am always anxious to attain," he observes, "is merely an increased secretion of saliva, accompanied by swelling and superficial ulceration of the gums, and sometimes also of portions of the lining membrane of the cheeks and lips; this I am desirous of attaining as a sort of index which denotes first, that the mercury is acting in a safe and salutary mode upon the system; and secondly, that it displays that degree of power or energy of action, which will be sufficient to eradicate the disease."

These humane and philosophical intentions are accomplished by recourse to therapeutic means equally original, namely, the administration of two grains of calomel every night, and the unseemly application of frictions with mercurial ointment to the thighs. After using these, we are told that,

"About the sixth or seventh day pyalism is fairly established, the gums are swollen, and appear as if inclined to separate from the teeth; they also present a slight degree of ulceration on their edges, especially in the intervals between the teeth; the lining membrane of the cheeks, opposite to the last molares, assumes a leaden colour, and is also swollen, so as to bear the impressions of the teeth; the soft palate also is often swollen, and more red than natural, as if it were slightly inflamed."